

REMARKS

The Final Office Action mailed August 16, 2006 has been carefully reviewed along with the references cited therein. In the subject Office Action, the Examiner objected to claim 9 because it depends on canceled claim 21. Claim 9 is also rejected under 35 U.S.C. § 102(b) as being anticipated by Takesue (U.S. Patent No. 6,319,152). Claims 6-7, 10, 20, 22-23, and 26-27 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Elkins (U.S. Design Patent No. D244,558) in view of Elkins (U.S. Patent No. 4,128,242), Viollaz (U.S. Patent No. 5,447,311), and Motomiya (U.S. Patent No. 4,438,931).

Claim Rejections – 35 USC § 102

Claim 9 has been amended to depend from claim 20, which should overcome the Examiner's § 102 rejection and his claim objection.

Claim Rejections – 35 USC § 103

With regard to independent claim 20, the Examiner argues that in view of Elkins '242 it would have been obvious to modify the head of Elkins '558 to have a cavity disposed in a muscle back portion to have the moment of inertia about the center of gravity maximized by positioning weight at the heel and toe to add effective loft to a head by having a low center of gravity. Applicant respectfully disagrees with the Examiner's proposed suggestion to modify. Elkins '242 teaches that the "moment of inertia of the clubhead about its own center of gravity is maximized by positioning as much clubhead weight as is practical in the heel and toe of the club. This is a well established design principle designed to minimize the amount of rotation of the clubhead when it is struck by an off center blow from the golf ball." Col. 12, lines 24-31. According to Elkins '242, a cavity disposed in a golf club head minimizes rotation of the club head as opposed to adding effective loft as the Examiner suggests.

Nevertheless, the Examiner goes on to argue that in view of Viollaz, it would have been obvious to modify the head of Elkins '558 to have a cavity substantially filled with foamed polyurethane to provide vibration dampening to a head at impact and to utilize a type of shock absorption material used in the market place. Such a modification of Elkins

'558, however, goes against the teachings of Elkins '242, which is the reference that the Examiner relied upon to modify the head of Elkins '558 so that it includes a cavity.

Elkins '242 teaches that "additional weight can be added as needed within hollow portion 53" for example by pouring a lead shot and adhesive mixture into the hollow portion. Col. 12, lines 37-40. Claim 20, however, recites "an elastomer material at least substantially filling the cavity, wherein the elastomer material has a specific gravity less than the material displaced by the cavity." At least substantially filling a cavity in the club head in Elkins '242 with an elastomer material having a specific gravity less than the material displaced by the cavity would raise the center of gravity of the clubhead in the Z coordinate direction, which goes against one of the considerations in the design of the correlated set of golf clubs disclosed in Elkins '242. See paragraph beginning at Col. 12, line 50. Accordingly, one skilled in the art would not place an elastomer material having a specific gravity less than the material displaced by the hollow portion in Elkins '242 because it would change the principle of operation of Elkins '242. Similarly, one would not place an elastomer material having a specific gravity less than the material displaced by the hollow portion in the hollow portion in Elkins '558 since Elkins '558 is a design patent that simply discloses the aesthetic ornamentation of the golf club head more particularly described in Elkins '242.

The Examiner appears to rely on the same patents discussed above in addition to Motomiya to reject claim 22. Claim 22 recites "an insert comprising a high-rebound material disposed in the cavity." The Examiner argues that in view of Motomiya, it would have been obvious to modify the head of Elkins '558 to have a polyurethane being a high rebound elastomer filling a cavity to utilize a type of shock absorption material used in the market place. For much the same reasons that the Examiner's combination is improper with regard to claim 20, it is also improper with regard to claim 22. Elkins '558 is simply a design patent that appears to be related to the Elkins '242 patent. As explained above, Elkins '242 teaches adding weight within hollow portion 53, which would lower the center of gravity. An insert comprising a high-rebound material, however, would raise the center of gravity. Accordingly, the references as a whole teach away from such a combination.

With regard to claim 22, the Examiner also argued that in view of Violaz it would have been obvious to modify the head of Elkins '558 to have a substantial portion of the extra mass portion being positioned below the cavity to have a more rounded intersection

where the rear surface and the sole surface intersect and as such have a head with less interaction with the ground when impacting the back of the sole with the ground when impacting a ball on the ground and still have a weighted sole section. Applicant was unable to locate this motivation to combine in Viollaz or Elkins '242, which is the patent that the Examiner relies upon to modify Elkins '558 to include a cavity. Elkins '242 teaches a "wide 'sweep' sole 50 is provided with each club in the correlated set to lower the center of gravity of each clubhead thus increasing the effective loft of the club at impact without significant sacrifice in the distance of carry of the golf ball." Col. 12, line 65 – col. 13, line 2. In other words, it appears that Elkins '242 teaches away from a more rounded intersection where the rear surface and the sole surface intersect and instead teaches the sweep sole that is disclosed in FIG. 7 which appears to teach placing weight rearwardly of the hollow portion, such as in the region near reference number 14a in FIG. 7. Viollaz provides no discussion on this matter. Accordingly, it appears that the Examiner's suggestion to modify is incorrect.

Claim 20 also recites "a cavity disposed vertically towards an upper portion of the extra mass portion." The Examiner relies on Viollaz as disclosing "a substantial portion of the extra mass portion being positioned below cavity," which leads Applicant to believe that the Examiner is relying on Viollaz to show a cavity disposed vertically towards an upper portion of the extra mass portion. Applicant respectfully disagrees.

Viollaz in FIG. 4 shows an internal cavity that is centered with respect to the face of the golf club head – the cavity is not disposed vertically towards an upper portion of the extra mass portion. Other than that the cavity has the general shape of a triangle, as seen in cross-sections along planes perpendicular to the hitting plane (col. 1, lines 64-66), nothing much else is taught with regard to the location of the cavity in Viollaz. Accordingly, one skilled in the art would simply rely on the figures of Viollaz, which show that the cavity is centered in any arguable muscle back portion found in Viollaz as opposed to being disposed toward an upper portion of the muscle back portion. Accordingly, the Examiner's proposed combination fails to teach or suggest each limitation presented in claim 20.

CONCLUSION


For the reasons detailed above, it is respectfully submitted all claims remaining in the application are now in condition for allowance. Accordingly, an early indication of the same is earnestly solicited. In any event, should the Examiner consider personal contact advantageous to the disposition of this case, the Examiner is encouraged to telephone the undersigned at the number listed below.

Respectfully submitted,

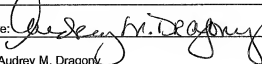
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